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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,702	08/04/2006	Stanley George Bonney	PB60028USw	5180
23347	7590	05/27/2010		
GLAXOSMITHKLINE CORPORATE INTELLECTUAL PROPERTY, MAI B482 FIVE MOORE DR., PO BOX 13398 RESEARCH TRIANGLE PARK, NC 27709-3398			EXAMINER ANDERSON, MICHAEL J	
			ART UNIT 3767	PAPER NUMBER
			NOTIFICATION DATE 05/27/2010	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/597,702	<b>Applicant(s)</b> BONNEY, STANLEY GEORGE	
	<b>Examiner</b> MICHAEL J. ANDERSON	<b>Art Unit</b> 3767	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13, 16-30 and 33-35 is/are rejected.
- 7) ☒ Claim(s) 14, 15, 31 and 32 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 04 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>8/4/2006</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

The references cited 8/4/2006 have been considered, and will be listed on any patent resulting from this application since they were provided on a separate list in the Information Disclosure Statement (IDS) Form PTO/SB/08 in compliance with 37 CFR 1.98(a)(1).

### ***Claim Objections***

Claim 4 is objected to because of the following informalities: Line 4 requires "the drive gear" and should properly be "the first drive gear". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 10-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 10 recites the limitation "the drive gear" in line 1. There is insufficient antecedent basis for this limitation in the claim. It appears that

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claim 10 should depend from claim 4 which includes "the drive gear". Claim 11 depends from claim 10 and is similarly rejected.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 12, 13, 16-21, 29-30 and 33-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Maurice (US 4,623,337).

With regards to claim 1, Maurice discloses (figures 1-9; column 4, line 63 to column 5, line 34, figure 9) a delivery device for delivering a metered amount of substance on each actuation thereof, comprising: a delivery unit (140) operable to deliver a metered amount of substance, the delivering unit including a piston member (160) which, in reciprocating movement, primes, meters and delivers a metered amount of substance; and an actuation mechanism (164, 168, 172) actuatable by a user to operate the delivery unit, the actuation mechanism comprising an actuator member (172) to which a user applies an actuation force in substantially a single direction, and being configured to effect the reciprocating movement of the piston member on application of the actuation force.

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With regards to claim 2, Maurice discloses (figures 1-9; column 4, line 63 to column 5, line 34, figure 9) the device of claim 1, wherein the delivery unit comprises a metering cavity (154) in fluid communication with a reservoir (148) for storing substance, and a piston member is reciprocatingly movably disposed in the metering cavity along a piston axis, the piston member being movable in a first direction to a first, primed position to draw substance into the metering cavity and thereby prime the delivery unit, and a second direction, opposite to the first direction, to a second, delivered position to meter and deliver a metered amount of substance from the metering cavity.

With regards to claim 3, Maurice discloses (figures 1-9; column 4, line 63 to column 5, line 34, figure 9) the device of claim 2, wherein the actuation mechanism further comprises a gear (164) assembly which is operably coupled to the piston member and the actuator member such as to effect the reciprocating movement of the piston member on application of the actuation force to the actuator member.

With regards to claim 12, Maurice discloses (figures 1-9) the device of claim 2, wherein the metering cavity (154) includes a peripheral wall and the piston member includes a piston which is a sealing fit with the peripheral wall of the metering cavity, the piston having a pressure face (160) for acting on the substance.

With regards to claim 13, Maurice discloses (figures 1-9) the device of claim 12, wherein the peripheral wall of the metering cavity includes a transfer port (152), the transfer port being located at a position between the positions of the pressure face of the piston when the piston member is in the primed and delivered positions, and

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providing for the transfer of substance from the metering cavity to the reservoir with movement of the piston member in the second direction until closed by the piston.

With regards to claim 16, Maurice discloses (figures 1-9) the device of claim 1, further comprising: a storage unit (146) including a reservoir for storing substance in fluid communication with the delivery unit.

With regards to claim 17, Maurice discloses (figures 1-9) the device of claim 1, further comprising: an outlet (156, 158) unit in fluid communication with the delivery unit from which substance is delivered.

With regards to claim 18, Maurice discloses (figures 1-9) the device of claim 17, wherein the outlet unit comprises a spray nozzle (156).

With regards to claim 19, Maurice discloses (figures 1-9, as for claims 1-3 above) the delivery device for delivering a metered amount of substance on each actuation thereof, comprising: a delivery unit operable to deliver a metered amount of substance, wherein the delivering unit comprises a metering cavity in fluid communication with a reservoir for storing substance, and a piston member reciprocatingly movably disposed in the metering cavity along a piston axis, the piston member being movable in a first direction to a first, primed position to draw substance into the metering cavity and thereby prime the delivery unit, and a second direction, opposite to the first direction, to a second, delivered position to meter and deliver a metered amount of substance from the metering cavity; and an actuation mechanism actuatable by a user to operate the delivery unit, the actuation mechanism comprising an actuator member to which a user applies an actuation force, and being configured to effect the reciprocating movement of

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the piston member on application of the actuation force, with the piston member being moved at a greater speed in the second direction during a delivery stroke in which substance is delivered from the metering cavity than in the first direction during a priming stroke over a length equal to the delivery stroke in which substance is drawn into the metering cavity (column 5, lines 12-15, the spring 174 creates the ejection speed).

With regards to claim 20, Maurice discloses (figures 1-9) the device of claim 19, wherein actuator member is configured such that a user applies the actuation force in substantially a single direction.

With regards to claim 21, Maurice discloses (figures 1-9) the device of claim 19, wherein the actuation mechanism further comprises a gear assembly (172, 168) which is operably coupled to the piston member and the actuator member such as to effect the reciprocating movement of the piston member on application of the actuation force to the actuator member.

With regards to claim 29, Maurice discloses (figures 1-9) the device of claim 19, wherein the metering cavity includes a peripheral wall and the piston member includes a piston which is a sealing fit with the peripheral wall of the metering cavity, the piston having a pressure face for acting on the substance.

With regards to claim 30, Maurice discloses (figures 1-9) the device of claim 29, wherein the peripheral wall of the metering cavity includes a transfer port (152), the transfer port being located at a position between the positions of the pressure face of the piston when the piston member is in the primed and delivered positions, and

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providing for the transfer of substance from the metering cavity to the reservoir with movement of the piston member in the second direction until closed by the piston.

With regards to claim 33, Maurice discloses (figures 1-9) the device of claim 19, further comprising: a storage unit including a reservoir for storing substance in fluid communication with the delivery unit.

With regards to claim 34, Maurice discloses (figures 1-9) the device of claim 1, further comprising: an outlet unit in fluid communication with the delivery unit from which substance is delivered.

With regards to claim 35, Maurice discloses (figures 1-9) the device of claim 34, wherein the outlet unit comprises a spray nozzle.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-10, 12, 16-27, 29 and 33-35 are rejected under 35 U.S.C. 102(e) as being anticipated by Pavlu (US 7,070,071).

With regards to claim 1, Pavlu discloses (figures 1-20) a delivery device for delivering a metered amount of substance on each actuation thereof, comprising: a



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delivery unit (2) operable to deliver a metered amount of substance, the delivering unit including a piston member (10) which, in reciprocating movement, primes, meters and delivers a metered amount of substance; and an actuation mechanism (30, 38) actuatable by a user to operate the delivery unit, the actuation mechanism comprising an actuator member (30) to which a user applies an actuation force in substantially a single direction, and being configured to effect the reciprocating movement of the piston member on application of the actuation force.

With regards to claim 2, Pavlu discloses (figures 1-20) the device of claim 1, wherein the delivery unit comprises a metering cavity (11) in fluid communication with a reservoir (4) for storing substance, and a piston member is reciprocatingly movably disposed in the metering cavity along a piston axis, the piston member being movable in a first direction to a first, primed position to draw substance into the metering cavity and thereby prime the delivery unit (figures 6 and 6A), and a second direction, opposite to the first direction, to a second, delivered position to meter and deliver a metered amount of substance from the metering cavity (figures 8 and 8A).

With regards to claim 3, Pavlu discloses (figures 1-20) the device of claim 2, wherein the actuation mechanism further comprises a gear assembly (38, 60, 40, figure 4) which is operably coupled to the piston member and the actuator member such as to effect the reciprocating movement of the piston member on application of the actuation force to the actuator member.

With regards to claim 4, Pavlu discloses (figures 1-20) the device of claim 3, wherein the gear assembly comprises a **first**, drive gear (60) which is rotatable about a

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pivot (54, 61) and driven by actuation of the actuator member, and a second, driven gear (40) which is rotatable about a pivot (42), driven by the **first** drive gear and operably coupled to the piston member.

With regards to claim 5, Pavlu discloses (figures 1-20) the device of claim 4, wherein the actuation mechanism further comprises a drive member (20) which operably couples the piston member and the driven gear (column 4, lines 51-60).

With regards to claim 6, Pavlu discloses (figures 1-20) the device of claim 5, wherein the drive member is pivotally mounted about a pivot (6, 58) such as to be reciprocatingly pivoted by the driven gear (40).

With regards to claim 7, Pavlu discloses (figures 1-20) the device of claim 6, wherein the drive member is configured such that the piston member is moved at a greater speed in the second direction during a delivery stroke in which substance is delivered from the metering cavity than in the first direction during a priming stroke over a length equal to the delivery stroke in which substance is drawn into the metering cavity (column 6, lines 16-32, the spring 14 is chosen to determine the ejection pressure).

With regards to claim 8, Pavlu discloses (figures 1-20) the device of claim 7, wherein the pivot of the drive member (20) is located in a position offset from an axis extending through the pivot of the driven gear (40) and orthogonal to the piston axis.

With regards to claim 9, Pavlu discloses (figures 1-20) the device of claim 6, wherein the driven gear (40) includes a drive pin (61) on a face thereof which engages the drive member (20, via drum 50; column 6, lines 34-41).

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With regards to claim 10, Pavlu discloses (figures 1-20) the device of **claim 3** (should properly depend from **claim 4** to include the drive gear), wherein **the drive gear** (60) includes  $n$  lugs (61a,b) on a face thereof, the lugs being equi-angularly spaced and having an angular spacing of  $360/n$  degrees, and the actuator member is configured to rotate the drive gear through  $360/n$  degrees on each actuation thereof (figures 5-9; column 6, lines 34-41, the lugs (61a,b) rotate with motion of the actuator 30).

With regards to claim 12, Pavlu discloses (figures 1-20) the device of claim 2, wherein the metering cavity (11) includes a peripheral wall and the piston member includes a piston which is a sealing fit with the peripheral wall of the metering cavity, the piston having a pressure face (12) for acting on the substance.

With regards to claim 16, Pavlu discloses (figures 1-20) the device of claim 1, further comprising: a storage unit (4) including a reservoir for storing substance in fluid communication with the delivery unit.

With regards to claim 17, Pavlu discloses (figures 1-20) the device of claim 1, further comprising: an outlet unit (11a) in fluid communication with the delivery unit from which substance is delivered.

With regards to claim 18, Pavlu discloses (figures 1-20) the device of claim 17, wherein the outlet unit comprises a spray nozzle.

With regards to claim 19, Pavlu discloses (figures 1-20; as for claims 1-10 above) delivery a device for delivering a metered amount of substance on each actuation thereof, comprising: a delivery unit operable to deliver a metered amount of substance, wherein the delivering unit comprises a metering cavity in fluid communication with a

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reservoir for storing substance, and a piston member reciprocatingly movably disposed in the metering cavity along a piston axis, the piston member being movable in a first direction to a first, primed position to draw substance into the metering cavity and thereby prime the delivery unit, and a second direction, opposite to the first direction, to a second, delivered position to meter and deliver a metered amount of substance from the metering cavity; and an actuation mechanism actuatable by a user to operate the delivery unit, the actuation mechanism comprising an actuator member to which a user applies an actuation force, and being configured to effect the reciprocating movement of the piston member on application of the actuation force, with the piston member being moved at a greater speed in the second direction during a delivery stroke in which substance is delivered from the metering cavity than in the first direction during a priming stroke over a length equal to the delivery stroke in which substance is drawn into the metering cavity (column 6, lines 16-32, the spring 14 is chosen to determine the ejection pressure).

With regards to claim 20, Pavlu discloses (figures 1-20) the device of claim 19, wherein actuator member is configured such that a user applies the actuation force in substantially a single direction.

With regards to claim 21, Pavlu discloses (figures 1-20) the device of claim 19, wherein the actuation mechanism further comprises a gear assembly which is operably coupled to the piston member and the actuator member such as to effect the reciprocating movement of the piston member on application of the actuation force to the actuator member.

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With regards to claim 22, Pavlu discloses (figures 1-20) the device of claim 21, wherein the gear assembly comprises a first, drive gear which is rotatable about a pivot and driven by actuation of the actuator member, and a second, driven gear which is rotatable about a pivot, driven by the drive gear and operably coupled to the piston member.

With regards to claim 23, Pavlu discloses (figures 1-20) the device of claim 22, wherein the actuation mechanism further comprises a drive member (20) which operably couples the piston member and the driven gear.

With regards to claim 24, Pavlu discloses (figures 1-20) the device of claim 23, wherein the drive member is pivotally mounted about a pivot such as to be reciprocatingly pivoted by the driven gear.

With regards to claim 25, Pavlu discloses (figures 1-20) the device of claim 24, wherein the pivot of the drive member is located in a position offset from an axis extending through the pivot of the driven gear and orthogonal to the piston axis.

With regards to claim 26, Pavlu discloses (figures 1-20) the device of claim 23, wherein the driven gear includes a drive pin on a face thereof which engages the drive member.

With regards to claim 27, Pavlu discloses (figures 1-20) the device of claim 22, wherein the drive gear includes  $n$  lugs on a face thereof, the lugs being equi-angularly spaced and having an angular spacing of  $360/n$  degrees, and the actuator member is configured to rotate the drive gear through  $360/n$  degrees on each actuation thereof.

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With regards to claim 29, Pavlu discloses (figures 1-20) the device of claim 19, wherein the metering cavity includes a peripheral wall and the piston member includes a piston which is a sealing fit with the peripheral wall of the metering cavity, the piston having a pressure face for acting on the substance.

With regards to claim 33, Pavlu discloses (figures 1-20) the device of claim 19, further comprising: a storage unit including a reservoir for storing substance in fluid communication with the delivery unit.

With regards to claim 34, Pavlu discloses (figures 1-20) the device of claim 1, further comprising: an outlet unit in fluid communication with the delivery unit from which substance is delivered.

With regards to claim 35, Pavlu discloses (figures 1-20) the device of claim 34, wherein the outlet unit comprises a spray nozzle.

### ***Response to Amendment***

The present communication responds to the Amendment of 8/4/2006.

By this communication, the specification and claims 1-35 were amended and claim 36 was canceled. The amendments did not add new matter. Claims 1-35 are pending. The rejection(s) are as stated.

***Allowable Subject Matter***

Claims 14, 15 and 31-32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

References considered pertinent to Applicants' disclosure are listed on form PTO-892. All references listed on form PTO-892 are cited in their entirety.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL J. ANDERSON whose telephone number is (571)272-2764. The examiner can normally be reached on M-F 6:30 am to 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin C. Sirmons can be reached on (571) 272-4965. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J Anderson/  
Examiner  
Art Unit 3767

MJA  
5/22/2010